

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 September 2005 (22.09.2005)

PCT

(10) International Publication Number
WO 2005/088088 A1

(51) International Patent Classification⁷: **F01N 3/025**,
3/035, 9/00

(72) Inventors; and

(21) International Application Number:
PCT/JP2005/004731

(75) Inventors/Applicants (for US only): OTSUBO, Yasuhiko [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). MIYAZAKI, Masataka [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). YOKOI, Tatsuhisa [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). MATSUOKA, Hiroki [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). MATSUNO, Shigehiro [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). INABA, Takayoshi [JP/JP]; c/o DENSO CORPORATION, 1-1, Showa-cho, Kariya-shi, Aichi, 4488661 (JP).

(22) International Filing Date: 10 March 2005 (10.03.2005)

(25) Filing Language: English

(26) Publication Language: English

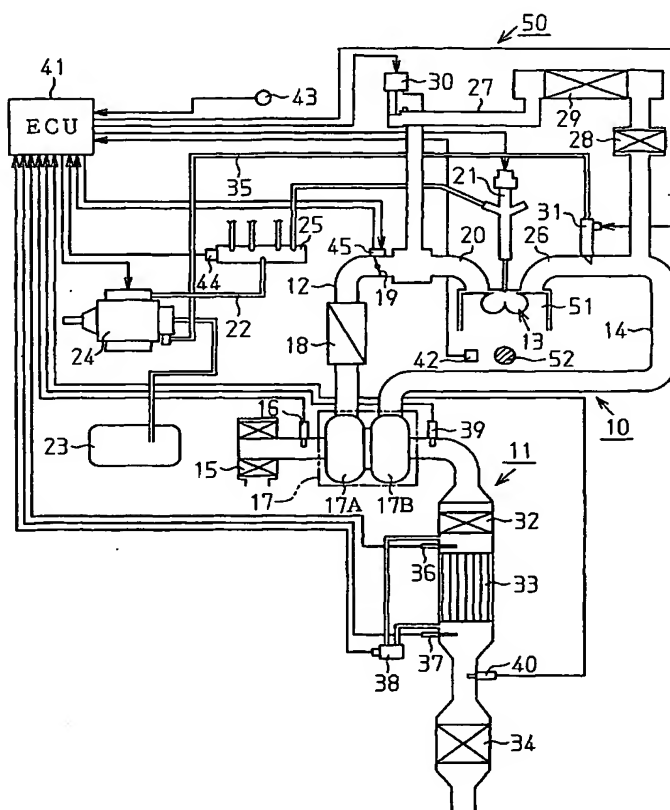
(30) Priority Data:
2004-068988 11 March 2004 (11.03.2004) JP

(71) Applicants (for all designated States except US): TOYOTA JIDOSHA KABUSHIKI KAISHA [JP/JP]; 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). DENSO CORPORATION [JP/JP]; 1-1, Showa-cho, Kariya-shi, Aichi, 4488661 (JP).

(74) Agents: ONDA, Hironori et al.; 12-1, Ohmiya-cho 2-chome, Gifu-shi, Gifu, 5008731 (JP).

[Continued on next page]

(54) Title: EXHAUST PURIFYING APPARATUS AND EXHAUST PURIFYING METHOD FOR INTERNAL COMBUSTION ENGINE



(57) Abstract: In an exhaust purifying apparatus, a fuel adding valve (31) supplies unburned fuel to an exhaust passage (14) of a diesel engine (10) so that particulate matter collected in a catalytic converter (33) is burned and removed. The supply of unburned fuel from the fuel adding valve (31) is executed even after an electronic control unit (41) determines that particulate matter in the catalytic converter (33) has been burned and removed. This reduces the amount of particulate matter remaining unburned in the catalytic converter (33).



(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.